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“COMMUNICATION.”

TRUTH can be pressed so far that it remains no longer truth, but becomes falsehood. And thought can be spun out to such tenuity, and in such delicate filaments, that it becomes complex and most ingenious sophistry, but no more the simple, close-grained, solid fact of life. For truth, though sometimes subtle and hard to find and trace, is never resolved, at the last analysis, into what is nebulous and thin, but is large, and round, and solid. And those writers who lead us along uncommon paths to uncommon results, to most ingenious speculations, and to thoughts of such tenuity that the very language which expresses them becomes opaque and meaningless, are not the ones who will, after all, control life, and marshal humanity to nobler heights than those already won.

Among such writers may be classed the author of the article in the October number of the *Atlantic Monthly*, entitled Communication. The name of Mr. Wasson is well known to those readers who affect the Emersonian school. He has written the ablest criticism of Mr. Buckle which has appeared in England or in America. He has contributed to the *Atlantic* the most racy review of Professor Draper's History of Intellectual Development in Europe which has been written, though by no means the most appreciative, impartial, or just. But the style of the article on Communication is the one in which he most delights, and which he generally employs. It is the style which he carries into Theodore Parker's pulpit; and the article under consideration bears internal evidence that it has once served in the capacity of

a sermon—not in the Music-Hall of Boston, but in the smaller audience-room which now contains the diminished number who worship at the shrine of Theodore Parker.

Our limited space will allow us to speak of this article with no degree of fullness. That it contains much truth we gladly admit. That in its relation to education it hints at much, and openly conveys much that is really valuable, we cheerfully concede. The truth in it will carry its own lesson to the thousands who will receive it from the pages which originally recorded it, and needs no repetition, and no enforcement here. The errors, however, may not carry their own denial, they may need specification, if not refutation. To refute them at length is beyond our power in an article of a few pages, but to hint at them, and awaken the attention of the careful reader to them, is both feasible and useful.

And, first, we must protest against that confusion of thought which blends the main theme, the communication of ideas, with that which is proposed in the opening sentence as the theme, the communication of virtue. The two lie wholly outside of each other, and are as distinct, and as distinctly different, as are character and thought. It cannot be reasonably denied that Mr. Wasson has, with much ingenuity, argued on both themes, passing insensibly from the one to the other, and letting the conclusions of the one part lead to those of the other part. Moreover, in establishing the connection he is obliged to do what the most ordinary disputant is compelled to do, namely, to cite Scripture to serve his pur-

pose, and, in citing it, to wrest it from all old established meanings, and to impose upon it his own theoretical interpretation. One of the great primary truths of the religion of Jesus, as received by the uniform judgment of man, is that God, through the agency of his Spirit, imparts new power to the moral life of man, introducing elements of recreative, regenerating force, which operate not by culture and improvement of the old, but by introduction of what is new. The manner in which the Biblical writers portray the ennoblement of our race, and the mode which they propose for the extermination of sin, is nowhere by a process of development or growth, but by a new creation, by the introduction of the "seed of the kingdom." But Mr. Wasson's rendering is unique. Read his words: "Though Paul plant, and Apollos water, yet fruit can come only out of divine and infinite Nature—only, that is, out of the native and communicable resources of the soul." Man, then, does all. God's Spirit nothing. There is no new creation, only an evolution of the old. We must, most earnestly, protest against wresting the Scripture to such profane uses. Let the theory which deals with all virtue on the evolved result of the human breast content itself with what analogies it can find in the world around us, but let it not enter upon the precincts of Revelation with such unwarrantable perversion of its teaching.

But let the theological question lie in the hands of the theologians, a large, deep, and most important question; that old vexed problem whether man is great and pure enough to ripen, under mundane influences alone, into a perfect creature, and throw off all the evils which his sin has entailed upon him. We will not try to solve the question whether evolution from within outward, or recreation from without inward, can accomplish this. We hold a firm opinion on it, one which controls our whole working life, but one which we should not think of using as a basis for settling a problem concerning the possibility of man's communicating his thought to man.

The main offence of the body of the article is the manner in which it elevates what is secondary to a primary place, and

in which it degrades what is primary to a secondary place. The treatment of the subject may be considered exhaustive, and does, in fact, cover the whole ground. But the great and fruitful relation which words, as the signs of thought, bear to words in their combinations as the vehicles of thought, has not been quite fairly treated. Doubtless words convey nothing to the mind which has not attained by its own experience and by its own observation their primary meaning. The sentence, "God is love," does, indeed, as Mr. Wasson asserts, convey nothing to his mind who has no idea of Deity, and no conception of love; nor can it be too strongly stated, that all forms of speech are made up of elements which must be possessed by both parties, the speaker and the hearer. Yet the significant word in such a sentence as that just quoted, "God is love," is the word which Mr. Wasson overlooks, the unmeaning copula itself. This it is that makes that sentence, "Communication." The two elements, God and love, are fused in the idea of His existence, and that idea is imparted by the sentence. Such an idea becomes, from the moment of its incarnation in speech, a simple thought, a fact, just as communicable to the mind through the ear as the shining of the sun is through the eye. And such ideas are all the time circling around us, passing not as things already known, but as new facts, and running up and down the gamut of life, from high to low, from educated to uneducated minds.

We would not imply that Mr. Wasson has passed over this matter in perfect silence. He has hinted at it, but only briefly, and as a secondary issue, placing it side by side with matters valuable and true, but not worthy of the first place. The fact that he recognizes it at all, is the saving virtue of his piece. For what a quietus would it put upon all instruction, if, aiming to lead the way to a higher theory of education than has yet been reached, it should begin by asserting that no superior mind can impart a single thought, a single complex idea to an inferior mind; that the father's wisdom cannot be made over to the child, nor the statesman's to the plain working man. That the eye must be the first and the best of teachers we freely admit; that it is to

gather in by its own searchings and observations the fundamental facts out of which thoughts are to be woven, is indeed most true; but that after that it can receive nothing which it has not eliminated from the depths of its own nature, is a refinement upon the ordinary facts of life which the sound common-sense of men refuses to receive.

So, while we thank the author of the article referred to for an eloquent and original paper, suggestive, and in many ways stimulating, we have also to regret that he has written in an over-nice and somewhat sophistical vein, rather than in strict accordance with the rude facts of life. His goods words respecting the power of strong lives to influence weak ones by earnest speech ought to be pondered and treasured; his suggestions which lead to a more thorough study by the eye of the *objects* of na-

ture are well worth heeding; but his main result, that makes it useless to argue, or to attempt to convey thoughts to the brain through the ear, would put an immediate check even upon the eloquent writer himself, of whom, as it is not too much to say, that he has few living superiors when he brings his best powers to his best thoughts; it may with equal truth be said that his article, now under consideration, if it were true, would seal his own life, and make it impossible for him to be a teacher of his race; he might stimulate and cheer, but he could not lead. We would not wish to see his eloquent pen or tongue silenced, out of fear that he could not communicate his rich thoughts to those less gifted. Rather let him, in wanton ingenuity, spin such subtle fancies as this sermon of his, of which we speak, and then break through his own meshes, and teach us yet more.

NATURAL HISTORY.

NATURAL History, in its largest signification, treats of the earth and all its natural products. The department of natural history which treats of the mineral kingdom is called Mineralogy and Geology; that which treats of the vegetable kingdom, Botany; and of the animal kingdom, Zoology. It is earnestly to be hoped that the time is not far distant when the elementary facts and principles of these different departments will be taught in all the schools of this country. Fortunate will it be for the cause of Education when that time comes; for the study of Nature is perhaps equally indispensable, in mental and in moral development. The material world is universally recognized as the source of supply for all our physical wants; but it is also intended to subserve another and a far higher purpose. The sentiment, "There are tongues in trees, books in running brooks, sermons in stones, and good in everything," is not only poetical, but true; and its poetical beauty consists in its truthfulness. Even the pebble is full of instruction adapted to educate the

mind and expand the heart. The crystals from the mountains and from the mines, are admired for their beauty and prized for their intrinsic value; but their true beauty and value are seen and felt only when we see stamped upon them unmistakable evidence of order and harmony. Their purity and brilliant luster, the mathematical arrangements of the different planes and angles, and the correspondence of angles on the different individuals of a species, and each of the six hundred mineral species crystallizing according to a type peculiar to itself, show that law attains in the materials of the solid earth as well as in the beautiful forms of life which adorn its surface. Every pupil in the schools should at an early period be made familiar with the names and most obvious characteristics of the most common rocks and minerals.

Every mineral and rock may be studied as follows: 1. Its Natural History; 2. Its Uses in the Arts; 3. Its Uses in Nature. Suppose the specimen to be quartz, the most common and most abundant of all miner-

als. We first notice its general appearance and obvious properties; its vitreous luster and hardness; its beautiful six-sided crystals, terminated by six-sided pyramids, its colors, as it appears in the beautiful Amethyst, Rose and Smoky varieties, Chalcedony, Agate, Onyx, Sard, Sardonyx, and Heliotrope. Secondly, we notice that quartz furnishes all the glass to the world, is an indispensable ingredient in mortar, and that the clear varieties are used for optical purposes and for ornaments. Thirdly, we dwell upon the fact that quartz is indispensable to the growth and maturity of plants, and especially to those which hold the most important relations to civilized man, such as the grains and grasses. And thus the mind is stimulated to earnest inquiry, and habits of investigation are established which will lead to the most important results; and the information thus acquired is also important, and will ever be a source of pleasure and a means of usefulness.

The elementary facts and principles of Botany should early be presented. Children naturally love flowers. Nature thus gives us a hint which we should follow in our instruction of the young, and has given a world full of flowers to be used in that instruction. It is an interesting fact that each new day brings new flowers. No sooner has winter released his stern grasp upon the earth, than the delicate petals begin to unfold; and this goes on till the blasts of autumn end the beautiful process. The facts of the vegetable kingdom are full of interest. Fortunate is the teacher who learns the facts and gets even a glimpse of their significance, and who leads his pupils to see what he sees, and thus prepares them to see more and more even after the relations of pupil and teacher have been severed.

But the animal kingdom, as it presents the highest forms of matter and of life, especially claims attention. The number of species of animals is not known, but may safely be estimated as high as a million; a great majority, however, are small and even microscopic. It is an interesting fact, that all this vast number belongs to four great branches:—Radiates, Mollusks, Articulates, and Vertebrates. All the an-

imals in any one of these branches are built upon the same plan.

Radiates comprise those whose parts are arranged around a vertical axis. Such are the Sea-anemones, Coral animals, Jelly-fishes, and Star-fishes.

Mollusks comprise soft-bodied animals, such as Clams, Oysters, Snails, Cuttle-fishes, and the Nautilus.

Articulates comprise those which have the body divided transversely into segments. Such are the Worms, Crustaceans, and Insects.

Vertebrates comprise those which have an internal skeleton. Such are Fishes, Reptiles, Birds, and Mammals, with Man as the highest representative.

Now if we were obliged to study all the thousands of animals in order to get a clear idea of the animal kingdom, it would be a hopeless task to attempt the study of Zoology; but nature has so laid out the work, that, by studying a part, we may have a very good idea of the whole. By studying a few polyps, jelly-fishes, star-fishes, and sea-urchins, we can get a good idea of all Radiates, and can readily teach the results to our pupils. The careful study of a snail, clam, and cuttle-fish, gives us a general idea of all Mollusks; the study of a few worms, a crab, and a lobster, and a few insects, throws much light on all Articulates; and the study of a fish, of a reptile, of a bird, and a mammal, reveals the most important facts and principles in regard to all Vertebrates.

What a wonderful fact it is, that each animal is a representative of all the animals in the branch to which it belongs,—that it bears within itself the characters that determine its branch, its class, its order, its family, its genus, and its species! A fish, for example, contains those elements of structure which are found in every Vertebrate upon the surface of the globe; and the fin of a fish, the leg of a turtle, the wing of a bird, the wing of a bat, the paddle of a whale, the leg of a lion, and the arm of a man, are one and the same thought under different forms of expression. Unity in diversity and diversity in unity, is the law of nature. It would seem that, within each type, there is the greatest diversity consistent with unity.

There are not less than one hundred thousand species of insects, and each of these species is represented by thousands, and in many cases by millions of individuals. Now there is one great idea running through all this countless host, binding them together. One individual of this vast number shows what truly constitutes an Insect; the insect type is present in every individual of the class.

Natural History will be taught in the schools when teachers themselves become sufficiently interested in the subject; and the practical and educational advantages of the study should stimulate us to earnest efforts of preparation to teach it. The study of Minerals, Plants, and Animals, prepares us to study the history of our globe, and to trace its changes from chaos to its present condition of beauty and grandeur. We must understand the forms of life as they now appear, in order to understand the forms of life that have flourished in the past. The rocks are filled with the petrified remains of thousands upon thousands of species that flourished and passed away ages before the present races were created. In many regions there are more species of animals imbedded in the solid rocks than are now inhabiting the surface of the same territory. One race of plants and animals has occupied the surface of the earth for long ages and then passed away, and another race, different and higher in rank than the one before it, has taken its place; and this has been repeated many times. What an interesting fact, that Nature has embalmed her subjects and handed them down to us so perfectly preserved that we are able to get a glimpse, at least, of the phases of life during all the past ages of the world!

Fellow teachers, the volume of nature is before us. It is full of truth, written on the pebble, the crystal, the solid rocks, the leaves of the forest, the gentle flowers, and the almost endless forms of animal life. To say nothing of the so-called practical advantages of studying this volume, shall we not, by studying the finite and learning how vast, how varied, and how perfect it is in all its plan and execution, have our minds and hearts expanded, and shall we

not get more enlarged ideas of the omnipotence of Nature, of the originating, governing principles of all things?

In order to teach natural history successfully, the teacher needs suitable collections for illustration, and suitable books for reference and aid. Collections which will afford great assistance, can be secured by every energetic and persevering teacher, if he will earnestly begin to collect and preserve Minerals, Rocks, Plants, and Animals. Valuable books on natural history are already in the market, or in a forward state of preparation. In Mineralogy and Geology we have the excellent works of Dana, Tenney's Geology,—Geology for Teachers,—Hitchcock's, Wells', Emmons', Gray and Adams', Loomis's, and Hillside's Geology, and others. In Botany, we have the excellent works of Professor Gray and Professor Wood. In Zoölogy, the books are less numerous, and less adapted to the wants of American schools. For school-books in this department, we have the Principles of Zoölogy, by Agassiz and Gould, treating mainly of the anatomy and physiology of animals, Ware's Smellie's Philosophy of Natural History; Ruschenberger's Natural History; and works by Wood, Hooker, and others. There is also a work in press, from the pen of Professor Sanborn Tenny, which contains an outline of the whole subject of Zoölogy, with a special notice of all the most interesting North American animals, from the mammals down to the jelly-fishes, corals, and sea-anemones. If executed in the manner the high reputation of its author would lead us to expect, it will supply a void. It will be, of course, the first text-book on Zoölogy which is mainly American in its character, and will enable the teacher to become acquainted with, and thus to teach, the names, appearance, and habits, of all the animals to be met with in the limits of the United States.

[For the amateur naturalist, and those who wish to secure a solid basis of study, while learning the most interesting results already obtained by others, we know of no work more serviceable than Hudson Tuttle's "Arcana of Nature," a work published in Boston in 1860, under auspices somewhat inimical to its popularity.—Ed.]

SCHOOL-BOOK AGENCIES.

THERE is no object to which the American people are more devoted, in the abstract, than to the cause of education. It is not only urged everywhere with us, as a moral duty, to educate the people, but its necessity is held up as a part of the political creed of the country. The whole North and West—if not the South—are apportioned into convenient school districts, each of which has its school-house, or an apology for one; and every parent deems it his duty, as well as privilege, to give his children at least a good common-school education. He may be very neglectful of his educational privileges, but he never abandons the idea of their inestimable value.

With the encouragement given to common-schools, the school-book trade, especially that which embraces the primary departments of instruction, has grown to enormous dimensions, so that it is now believed to cover fully one half of the entire book trade of the country. Large school-book publishing houses are found, not only in Eastern cities, but at the West also; while most of the miscellaneous publishers are from time to time adding school-books to their list. So great are the interests now centered in this one branch of the trade, that the mere matter of introducing school-books, and of retaining them in the schools when once introduced, has grown to be a great business in itself, under the name of "School-book Agencies."

Formerly a good school-book would stand on its own merits, as miscellaneous books do; and it was sufficient that it should be largely advertised, and commended by the public press, to lead teachers to seek it, and, if found satisfactory, to introduce it into their schools; but under the system of "school-book agencies" which has grown up within the past thirty years, these things are very much changed, and it is now a very remarkable school-book that will attain a great sale without the aid of some "agency" means to make it favorably known, and to "push it." We purpose to explain the workings of this agency system, as it was at its origin, and as it

now exists, show how it has been perverted by some publishers and agents, to the great injury of the cause of education, and suggest how its present serious evils may be remedied.

In the infancy of the system, the business of the agents was simply to show and explain their books; in important schools to leave copies for examination; and to offer them for first introduction at about wholesale prices. Little was said by the then modest agent, about the books already in use, as the teacher himself was supposed to be capable of judging both of their merits and demerits; and he was deemed a good and honorable agent who could successfully represent the books for which he labored, without disparaging others. There were then no "book wars" carried on by the agents of rival houses: there was no deceptive pamphleteering, nor issuing of defamatory circulars, to demolish competing books: no carrying cities by storm, and overwhelming a rival, by a wholesale giving away of books for introduction. The agency was a useful and honorable means of bringing new publications to the notice of the educational public.

Now, however, this agency business is managed very differently, and less fairly, by some of our leading school-book publishers—by a few of them it may be, not by all. Their agents go forth to make open war on all rival books; to remove them if they are already in the schools, and introduce those which they represent, by almost any means that will accomplish the end; or, if the rival books are not already in use, to prevent their introduction—by such means as may be successful. These are the openly professed objects of this perverted agency system, as it now exists in some portions of our country. It is, indeed, a mere business matter on the part of the publishers and their agents—and why should we trouble ourselves about it? Why not let them manage their business in their own way? We reply, because it is our business as well as theirs; and because the mode in which they conduct it operates directly and disastrously upon us

teachers, and the educational interests committed to our charge. In our professional pride or ambition we may be, or hope to be, authors also; and it concerns us to know whether our works are to be fairly treated or not by these would-be arbiters of the fate of every school-book.

But we must explain more in detail the workings of this perverted system. It sets out with the principle, on the part of each publisher who adopts it, that rival books must first be disparaged—and the greater their merit the greater the necessity: and to accomplish this end is a part of the personal business of the agent, as he visits the schools in the section of territory assigned for his labors. Sometimes, also, this is done by direct but anonymous criticism, in pamphlet or circular form, and sometimes by means more exceptionable, which we need not detail here. Fair and open criticism of books, by independent educators, through our educational journals or the public press, is not only unobjectionable, but is even desirable; and a candid discussion of the principles embraced in school-books is sure to result in good to the cause of education; but criticisms by rival publishers and their agents, or criticisms written, and opposing opinions given, in their interest, are not only unreliable, and deceptive, but are too often made a part of the odious instruments of a dishonorable agency system. If one interested party thus criticises rival books, the other may be compelled to retaliate in self-defence. Whoever may be the wrong-doer in this case, he should be held to a strict account for any deception which he attempts to practice on the educational public. Moreover, for a hired agent to knowingly slander the works of an author, and coolly damage his literary reputation for pay, indicates a low sense of honor—and a bad state of morals in the community which tolerates it.

Cases like the following, as parts of a perverted agency system, we have heard freely talked about by teachers, so that we are inclined to believe there is a basis of truth in them. If a publisher has his books in general use in a large section of territory, he perhaps reasons thus: My yearly profits from that section are, say, thirty

thousand dollars. My books may not be as good as certain others: but as a business matter, I must keep the latter out of the schools if I can; and to do this I can well afford to pay several traveling agents—and “buy up” a few teachers, and school officials also. That is, he will have both his avowed and his secret agents; and then, with his agency system in full operation, he may well claim to own the territory. We are assured that there are teachers—a very few, we trust,—who secretly receive from publishers—not many such, we hope—an addition to their salary as teachers, on condition of favoring certain series of books. If teachers chose to act openly, as avowed agents, no complaint would be made; but it is the disguised agency that is reprehensible—the pretending to advocate books from principle, when it is merely for a pecuniary consideration.

Some years ago it came to the knowledge of the writer of this article, that a certain State Superintendent of Public Instruction was receiving a salary of—hundred dollars a year, as a consideration for secretly favoring the school-books of a certain publishing house! The Superintendent was not particularly demonstrative in favor of the books: but he gave them his official recommendation; and it was doubtless supposed that his quiet influence would lead to their general adoption in the State. No breath of suspicion, that we are aware of, has to this day sullied his educational fame; he is still known as an honorable educator, and we shall detract naught from his reputation; and yet we consider that he was false to the sacred trust reposed in him by the people. It was made his duty to recommend books to the schools of the State; and although it might be urged in his favor that he did recommend what he deemed the best, yet he occupied a false position, in receiving pay, in the shape of a bribe, from interested parties. But it is quite probable that he did not recommend what he would otherwise have considered the best books; and had it been known that he was under pay from a publishing house, his recommendations would have been of little worth, and his reputation not an enviable one. He cheated the people into the belief that his sole motive in recommending cer-

tain books, was his unbiased and unbiought judgment.

But, it may be asked, why detail such exceptional cases, that are discreditable to the few parties only who are directly implicated? We reply, because they have crept into a great "School-Book Agency" system, that threatens to become more and more perverted, and to extend its evil influences over the whole country. We would point out its liabilities to fearful abuse, in the hope that public opinion—and the opinion of the teaching profession especially—will work its reformation. Teachers have the power to control these agencies; for the teachers—except in a few instances where City School-boards direct in book matters—give them their entire support. One of the most serious of the indirect evils that have grown up under this agency system, we have yet to notice. In the intensity of competition between rival publishers and agents, years back, books were sometimes offered to schools, for introduction, without charge. However unwise this may have been, it was not deemed unfair, when each of two parties made similar offers to displace the books of his rival. When, however, a publisher, for the purpose of securing the future trade to himself, makes such an offer to displace the books of a party who has never thus injured him, and claims that it is a fair business transaction, many of the old-school business men will demur to such notions of honor. But, beside the business principle involved, the practice often leads to much evil to the cause of education. Is it right, or honorable, thus to take out of the schools the books of a publisher who has not the capital requisite to carry on a retaliatory book-war against a wealthy rival house? If it is, a wealthy publisher may often break down a less wealthy rival, and keep the best text-books out of the schools. And, even, some wealthy publishers will not engage in a school-book trade that requires such a departure from good business principles to sustain it; for if they do engage in it, and wish success, they know they must fight their rivals with their own weapons, and invest a large amount of capital in books given away in anticipation of future profits. It is not difficult to see that

the publisher who makes this sacrifice at the beginning, will make it up in subsequent prices, which will fall upon other parties. Somebody must pay for it.

Moreover, if this system is to be generally acted upon, and if teachers, who have the power to control it, accede to it, it will effectually keep the trade in school-books in the hands of a few great domineering houses; and their books only will be successful, however inferior to others they may be. Already certain publishers have carried the system so far, in some sections, as to secure from city Boards of Education where their books are in use, the adoption of a by-law, that there shall be no change of books entailing any expense upon the schools! Hence, if a new series of books are published, vastly superior to those in use, and the teachers and patrons of the schools call for them, and the publisher is unable or unwilling to "give the books in," this by-law, enacted in the interest of an existing monopoly, is an effectual barrier against educational progress, which is dependent on the use of the best books. The school Boards have not always known the secret promptings that led to the passage of such a law. We have known cases in western cities where, after a series of books had long been kept in use under this law-sustained monopoly, and a change, had, at length, been imperatively demanded, an inferior series of books has been adopted against a series acknowledged to be better, but whose publishers would not "give them in."

From the foregoing, it will be seen that we are utterly opposed to the system of *giving* books to schools, as is offered by a few publishers, to secure their introduction against, or to throw out, a rival series. It is wrong in principle, and bad in its results to all parties; but worse in its effects upon the schools themselves than upon the publishers, by reason of the odious school-book monopolies which the system tends to foster. Moreover, teachers may rest assured that, as a general rule, it is only the poorer books that are offered in this way, and they should not be deluded by the idea of getting new books for their old ones. The offer should excite suspicion that the new books are not what they

should be. Teachers should never demand such a sacrifice from the publisher, nor deem that they are conferring a favor on him by buying his books. It is quite as much to the interest of a school to have the best books, as it is to the publisher to sell them. Many publishers now offer their elementary school-books at half of the retail prices, for introduction. This is liberal on their part, and ought to satisfy the schools. Let this be the established rule on both sides, and many of the growing evils of school-book agencies will be avoided.

A word, now, to teachers. You may well be suspicious of agents and publishers who make it their business to disparage and denounce rival books, as a means of introducing their own, or of keeping others out of the schools. Depend upon it, the greater the merits of books, the greater the opposition that will be made to them by interested parties. If you are satisfied that detraction is not an honorable kind of agency, you may justly suspect that those who engage in it will not be unlikely to resort to dishonorable means to accomplish their purposes. At best, the publish-

ers are interested parties, and their agents are paid advocates, who present one side of a case only, and you should form no judgment until you have heard the other. We rejoice, however, that there are not many such publishers, and not many such agents. There should be still fewer than there are. Theirs is an evil system, and teachers can bring it into deserved disrepute.

A word of advice to agents themselves, and we close. A gentlemanly and successful agent of our acquaintance, long a popular teacher, makes it a matter of principle as well as policy, never to say a word against opposing books. He does not even ask what books are in use, although he generally manages to learn this incidentally; but he does the best he can to commend the books which he represents. He has no controversies with any one, except it be to discuss educational principles; and he says he never puts out any one's books: he merely puts his own books in, and leaves it to teachers to take others out if they choose. We would commend his system, and his principles, to all book-agents, for their imitation. In such an agency a man can honorably engage.

MENTAL WAREHOUSING.

SHOULD we study in our teachings to adapt ourselves to the "young mind;" or, merely store the memory with truths for the advantage of riper years?

No one can object to storing the mind of childhood with truths. But many of those truths which must be impressed upon the memory, can be understood very imperfectly at first; and to refrain from imparting any knowledge that could not be perfectly understood or realized at the time, would be to leave the child to that harsh and stern, though doubtless effective teacher, experience.

As all truth is valuable, perhaps a child's mind can hardly be stored with too many truths, known to be such; yet one caution is especially to be observed in this storing process,—that is, not to overload, crowd,

and confuse the memory. The same rule applies to mind as to muscle; moderate and frequent exercise strengthens; violent and excessive, and little or no exercise, will weaken and impair.

But the question is, "Should we *merely* store the memory?" and this presents the subject in an entirely different aspect.

Manifestly, to fill up the mind, is not to draw it forth. To store with facts, is not to develop strength of intellect. Memory is a servant of thought.

Buffon pertinently says: "The education of the parrot has been compared to that of the child, it would be often more correct to compare that of the child to that of the parrot." For the memory may be well stored, arranged, packed (sometimes it seems as if it had been hermetically sealed); but

if the mind has not also been taught to think and act for itself, drawn out (educated) to independent exercise, it is worse than useless. Of the two methods referred to, the first has been compared to giving a man a cord of wood, and the second to teaching him the use of his axe and opening the woods for him to cut for himself. These two systems, technically called the pouring-in and the drawing-out systems, are as different, in their results, as daylight from darkness. Education is not knowledge, but a healthy development.

There are various reasons which render it an imperative duty for us to adapt ourselves, in our teachings, to the comprehension of the young mind.

First. In everything else we adapt our means to the end. Why not in this? We do not attempt to build a fire with cold water, nor endeavor, by talking Greek, to convince one who understands only English; but this would be as rational as to try to kindle up a young mind by unintelligible words, or stimulate the brain to activity, by piling upon the memory, ponderous, dry, uninteresting facts.

Second. The facts and truths most fully comprehended make the most lasting impressions. It is true that sometimes words meaningless to the child when uttered, may afterward spring up and bring forth fruit; but how much greater the chances, if, by adapting ourselves to the understanding of the child, we can make the seed take root *at first*,—if we can cause the mind to grow with the body's growth and strengthen with its strength!

"The pebble in the streamlet scant
Has turned the course of many a river;
The dewdrop on the infant plant
May warp the giant oak forever."

Impressions made in childhood are deep-set; consequently, of most importance. It has been said, that those impressions made upon the child before he has reached the age of five years, do more to form his mind and character than any and all after impressions, even though not one event that occurred before that period should be remembered. Little can we recall of the impressions, thoughts, words, and acts, that led to others, and others still, which

have made up our mind and character. They themselves have long since passed from our memory, but their influence abides for eternity. And shall we allow this important period to pass away unimproved? Shall we suffer the mind to outgrow this plastic, impressible period, without studying so to adapt ourselves to its intelligence as to make the clearest and best impression? Let us remember that not words alone, but every act, or look, or motion, understood by the child, teaches for good or evil.

When we consider that the mind, at first so plastic and impressible, becomes hardened with increasing years, how momentous seems the responsibility of those who guard it in childhood and infancy!

Third. By studying to adapt ourselves to a child's intelligence, the lessons conveyed are made pleasant, and inspire a love of learning and thinking; while, by merely loading the memory with unintelligible truths, we induce apathy or disgust; study becomes drudgery, and lessons are passed over in the most superficial manner. No surer method could be taken to make the mind dread and avoid all study in after years.

By adapting ourselves to the child's comprehension, we descend far enough to help him up to our own standard, and take the most effective method to teach him to think, and *love* to think, and reason, for himself, to search, observe, compare, and study. We thus develop and expand the mind; while the opposite course shuts it up, or cramps, dwarfs, and cripples the mental faculties. Our great object must be, not to make the mind a passive, stupid recipient of facts, but to create that love of study and mental activity which shall lead it to explore for itself in the fields of knowledge. We must wind up the watch that it may go itself.

"Labor is life; 'tis the still water faileth;
Idleness ever despaireth, bewaileth;
Keep the watch wound or the dark rust assaileth,
Flowers droop and die in the stillness of noon."

The love of thought and study, thus created, forms the habit of mental activity which is so essential to a healthy development.

RECREATION.*

MEN and women, old and young, *need recreation*. Not only rest from toil (and the people of this country are the most overworking people on earth), but we need the occasional restorative of *recreation*. I use that word in its etymological sense: to re-create, to make a man over again as good as new. You and I work ourselves down. Then we must be built up again. We need to unbend. We should not keep the bow always strung, else it loses its elasticity. Men were not created always to be drudges. They were to play once in a while as well as toil. All work makes a man a sorry slave, all play makes him a sorrier fool; the wise person avoids both extremes. God has not only given all powers of enjoyment, but recreation is an absolute need. I must have it, so must you. The best men have always found it so. Biographies of the most healthful Christians reveal them as unbending to an innocent sportiveness. Their grave faces relax sometimes into what the old Puritan used to call "the Christian liberty of laughing." Their over-active brains are regaled with a healthy holiday. When at work they work like men and Christians. When at play, they unbend and sport like little children. That is nature; that is wise; that is beautiful.

Thus, Martin Luther bends over that German translation of the Book of God; and refreshes himself by hearing his beautiful wife, Catherina, sing sweet songs, and by decorating Christmas-trees for his children. Granville Sharp never played more sweetly on human sympathies, when he was arousing the world for the bondman, than when he used to retire from his philanthropies to play upon his flute in his terrace overhanging the Thames. Buxton is good at hunting abuses in Parliament; he is equally good in hunting with dog and gun over the English heath. Wilberforce battles all

day for God and humanity; labors for Bible circulation; labors for genuine reform; labors for Christian missions and for India; and then goes home to amuse his children with delightful stories, and trundles a hoop with them all around his garden at Clapham.

What kind of recreation do men need? For whatever man needs, according to his God-given nature, is right. The daily laborer who toils twelve out of the twenty-four hours, probably finds no recreation like simple rest. Lying down upon his bed is recreation. The Sabbath comes to him with rest; social joys in his humble home are a part of his recreation; an occasional hour in some free library, or listening to discourses of truth and music, is healthful recreation. The great idea with him is *Rest! Rest!* The student wants change of occupation—physical exercise. That attenuated form of his, which bends over the book until his face becomes as bloodless as the page he scans, should go out into God's free air, and all the better for him if the hand that is idle should swing the axe, or pull the oar upon the stream. I never shall forget a walk with that greatest of modern poets, the now departed Wordsworth, over the hills which he has made immortal; as I saw the hale and healthful countenance of the great bard, I understood what his servant meant when he said: "My master's study is always out of doors."

One of the acutest minds in all England—Carlyle—once vented itself in this way to me: "My greatest pleasure is to mount my horse and ride out in the teeth of the wind, away from these smoky streets of London."

Commercial men have many methods of recreation open to the most conscientious, and, first of all, Books! Books make the purest of our recreations. But, some one says, "May I read books of fiction?" Yes, sir, on two conditions only: first, that you never read any but those which are pure and soul-elevating; and next, that you only read those as the occasional recreation of a mind fatigued by severer

* Pulpit and Rostrum, No. I., "Christian Recreations and Unchristian Amusements." By Rev. Theo. L. Cuyler. Schermerhorn, Bancroft & Co., New York and Philadelphia.

duties. It is as if you ask me, while sitting at a table, "May I eat that light syllabub?" "Yes, when you have dined on strong meat." But woe to him who feeds his body on syllabub alone! Woe to the young men or maidens who have no good books in their heads or hearts! I believe there is more demoralization of the young, more loss of character and incipient infamy, resulting from the vile pages of certain pestilential literature, which swarms in this country, than from any other source which Satan employs to ruin our youth. But a *good* book is one of God's best gifts.

Next to books comes Music; music from the cradle-hymn, which the sweet-voiced mother sings in our infancy, to the plaintive dirge that floats over the greensward, where we are laid to our rest; music when it comes as vast waves in the oratorio, swelling and rolling in surges on the soul

like the sound of many waters on the beach; or the martial air stirring the soul like the sound of a trumpet on the tented field; or the delicious evening hymns sung by our loved ones at the altar of our homes; or the anthems sung by the great congregations, rolling up to mingle with the oratorios of heaven. I care not that Satan has stolen music and perverted it to sensual and infernal uses. The possible abuse of a thing is no argument against its proper use. And galleries of art, scientific lectures, all these are means of recreation within the reach of the young; and I do thank those public benefactors, who are bringing to our shores so many masterpieces of genius.

Without dwelling further on specific recreations, we come to this principle, that whatever makes your body healthier, your mind happier, and your immortal soul purer, is Christian recreation.

THE BLACKBOARD AND CHALK.

LEARNED sages may reason, the fluent may talk,
But they ne'er can compute what we owe to the chalk.
From the embryo mind of the infant of four,
To the graduate, wise in collegiate lore;
From the old district school-house to Harvard's proud hall,
The chalk rules with absolute sway over all.

Go, enter the school-room of primary grade,
And see how conspicuous the blackboard is made.
The teacher makes letters and calls them by name,
And says to the children, "Now do you the same;"
Mere infants, you see, scarcely able to walk,
But none are too feeble to handle the chalk.

We visit a school of much higher pretension,
The blackboard here claims undivided attention;
The walls, "dark as Erebus," first greet the eye,
Before them, bright misses and lads we espy;
And the sound of the crayon's irregular tappings,
Reminds us of spirits' mysterious "rappings."

One has pictured a vessel, with streamers unfurled,
Another is making a "map of the world;"
A third has a problem in "Greenleaf" to solve,
A fourth is explaining how planets revolve;
While a young physiologist, skilled in the art,
Is sketching the muscles, the lungs, and the heart.

In the midst of this bustle, the schoolmaster stands,
And, lo! he's a crayon in each of his hands;
And the chalk in *his* hand has a magical power;
A teacher might reason and talk by the hour,
But naught would avail all his reason and talk—
The truth is made plain by the use of the chalk.

And the teacher of music the blackboard employs,
The chalk must be used e'en in training the voice;
Be it rythm or melody, accent or force,
He always insists on the "regular course;"
Declaring the secret of musical skill,
Is found in the blackboard, the chalk, and the drill.

See the chalk in the hand of the artist. Behold
What beauteous forms as by magic unfold!
The storehouse of Nature he swiftly displays,
Till the dazzled beholder is lost in the maze;
Designs, without number, appear to the view,
And show what the chalk and the blackboard can do.

O wise PESTALOZZI! we place on thy brow
A coronet, bright and unfading; for thou
A legacy rich hast bequeathed unto men,
Our *one* feeble talent by thee is made *ten*;
We prize thy rare gift, but we never may know
How much to thy matchless invention we owe.

O Chalk! what a powerful monarch thou art!
In this age of reform, how important thy part;
Those minds that are swaying the world unrestrained,
In childhood and youth in thy empire were trained;
Of the wonderful "power of the press" we may talk—
It never can vie with the blackboard and chalk.

An engine so powerful, so mighty to aid—
So simple in structure, so readily made,
A helper so potent in training the young—
'Tis meet that thy praise by the muse should be sung;
For, though sages may reason, and orators talk,
They can ne'er "make their mark" without blackboard and chalk.

THE NEW METALS.

A HISTORY of the metals and a full description of their combinations with other elements, however interesting to some, would be of little interest to the most readers. In this article, therefore, are presented such points as might not only be of utility to the chemical student or instructor, but also be in some measure interesting to the general observer. The elements thus far discovered by the spectroscopy are four, all of which are metals, and will be described in the order of their discovery.

In 1860, while MM. Bunsen and Kirchhoff were engaged in the spectral analysis of the mineral waters of Dürkheim, their attention was arrested by two distinct lines in the spectrum, which, being entirely new, led them to suspect the existence of new elements. They accordingly initiated a course of experiments, which resulted in the discovery of two alkaline metals, to which they gave the names, Caesium and Rubidium. The former occurred in considerable quantity, but the amount of the latter was so small, that thorough investigation of its properties was impossible until its presence was discovered in the lepidolite of Rozena. In the first of the experiments referred to, one half a milligramme of chlorid of caesium was obtained from fifty grammes of mother-liquor from the brine-works of Dürkheim. Although the quantity thus procured was extremely small, yet the spectral reaction was so wonderfully distinct, that the investigators were encouraged to experiment on the most gigantic scale known in the annals of chemistry. In the alkali-works near by, they evaporated 44,200 kilogrammes (about 40 tons) of the mineral water, obtaining thereby 240 kilogrammes of mother-liquor, from which they separated about half an ounce of caesium and somewhat less of rubidium, with which they proceeded in their investigation.

Caesium is a silver-white metal, resembling potassium in appearance, and derives its name from the peculiar blue lines of its spectrum. It is reduced from the chlorid,

which, in the experiments referred to, was thus obtained: The mother-liquor, after being deprived of alkaline earths by sulphuric acid and subsequent treatment with lime and baryta, was filtered; the filtrate was neutralized by nitric acid, after which the alkalies were precipitated by bichlorid of platinum. As the double chlorid of caesium and platinum is less soluble in water than those of potassium or sodium, the latter were removed by boiling water; the former was then washed, and, after drying, reduced by a current of dry hydrogen, which left metallic platinum and chlorid of caesium. The latter was removed by water, evaporated to dryness, and fused. The fused salt was then placed in the current of a powerful Bunsen battery, of which graphite formed the positive, and iron wire the negative pole. The metal was seen to come off in little pellets at the negative pole, taking fire upon exposure. When metallic mercury formed the negative, and platinum the positive pole, a caesium amalgam was formed, of silver-white color, and crystalline structure. Caesium is the most electro-positive of the elements; like potassium, it unites with oxygen in several proportions; at ordinary temperatures it decomposes water with evolution of hydrogen; upon exposure to the air, it rapidly becomes coated with a white hydrated oxyd, which is excessively caustic. The symbol of this metal is Cs, and its atomic weight reaches the great figure of 133.

Rubidium was also obtained by reducing the chlorid, which was procured in considerable quantity by fusing the lepidolite of Rozena, in which Mr. Cooper discovered .24 of one per cent. of the oxyd. The solid residue, after fusing, was acted on by water, and the liquid thus obtained was treated with bichlorid of platinum; the resulting precipitate was dealt with precisely as was the corresponding one in the case of caesium. When the fused chlorid was submitted to the action of a strong Bunsen battery, the metal appeared at the negative pole in pellets, which rose

rapidly to the surface and took fire, burning with a brilliant red flame. The negative pole was then surrounded by a glass vessel, through which a stream of dry hydrogen was passed. The metal then united with the salt, forming a sub-chlorid, which gave a blue tint to the surrounding portions. This blue mass, though destitute of any metallic appearance, even when subjected to microscopic examination, possessed the property of decomposing water at common temperatures with disengagement of hydrogen. The same curious property belongs to caesium. The rubidium amalgam is more easily obtained than that of caesium, and comports itself in precisely the same manner. Next to caesium, this is the most electro-positive element, and derives its name from the red line of its spectrum; it unites with oxygen in several proportions; is of a silver-white color, with a scarcely perceptible tinge of yellow. Its symbol is Rb; equivalent, 85.86; specific gravity, 1.52. It melts at $58^{\circ}.5$ C., turning into a greenish vapor just below red-heat.

Thallium was discovered in 1860 by Sir William Crookes, while examining a specimen of native sulphur. The honor of its discovery is also claimed by M. de Lamy, but the weight of evidence is very clearly on the side of Crookes. This is the softest metal known, being scratched by soft lead. It has but little tenacity, yet is malleable and can be pressed into wire. Even when cold, two pieces will weld together. It is a good conductor of heat, and electrochemically is near cadmium. When bent, it gives a creaking sound resembling the "cry of tin." When kept under water, but more especially when boiled, the surface assumes a crystalline structure. It oxidizes very rapidly, upon exposure to the air, but, when once coated, undergoes no further change. It is a whitish metal, resembling lead; its symbol is Tl, and its equivalent, 203; its specific gravity is about 11.86, and it melts at 550° F., beginning to volatilize at red, and boiling just below white heat. It forms a basic and an acid oxyd. The former is soluble in water with alkaline reaction, and the solution has a very caustic taste. The spectrum of thallium is very characteristic. Unless sodium

is present in excess, a green line of great distinctness marks its presence. By this means, $\frac{1}{333333}$ of a gramme may be detected. If sodium be present in excess, the thallium must be precipitated on zinc, or as the iodid or sulphid. It may be quantitatively estimated by precipitation, as protochlorid, iodid, or platina-chlorid. There has been, and indeed there is still, much difficulty in determining the position of thallium among the metals. In many points, it resembles the alkaline metals, and M. Nickles has formed an alum in which thallia displaces potassa. Its salts, however, have a wonderful similarity to those of lead. Moreover, the insolubility of the most of its compounds with the metalloids and the easy dehydration of its basic oxyd, its great atomic weight, and the ready reduction by zinc, together with the complexity of its spectrum and its power to form a strong acid oxyd, all show that it cannot be consistently placed elsewhere than among the heavy metals.

Indium was discovered in 1863 by MM. Reich and Ritter, while they were examining a specimen of arsenical pyrites in the mining school at Freiberg. They perceived a new ray, of an intensely indigo-blue color, not laid down on any chart, so that they deemed the presence of a new element probable. The same reaction was afterwards more strongly perceived in zinc-blende. From the peculiar color of its reaction, the new element was named Indium. It is exceedingly rare. In order to obtain a sufficient amount for investigation, two hundred pounds of zincblende were treated with hydrochloric acid, which, having been distilled, gave forty-three pounds of impure chlorid of zinc. This distillate was treated with water, and filtered. There was left a residue containing a few grains of indium. The metal is white, between tin and silver, in color; it is very soft and ductile, and retains its luster when exposed to the air, or in water at 212° F.; its oxyd is reduced by hydrogen to a metallic powder, which is infusible in the bulb-tube, but fuses readily on charcoal, coloring the flame blue; its density is about 7.16; its fusing point and atomic weight have not been ascertained, but, from the close resemblance of the metal to cadmium, there is much

probability that its equivalent will also approximate.

Respecting the utility of these metals but little can now be said. Their properties are, as yet, not sufficiently understood to render reliable any opinion which might be offered. The great obstacle, at present, preventing any useful application of them, is the smallness of the amount to be found in any one spot. It is true that caesium and rubidium are very widely distributed, occurring in all salt-springs, in molasses, in the ashes of beets and tobacco, as well as in the human tissues, yet, in all, they are so sparingly found that their separation is extremely difficult. These alkaline metals may, perhaps, be useful in the preparation

of colors, if found in sufficient quantity, yet even then they can never compete with the products of coal-tar. Thallium, however, may yet be of use in the arts, as it is by no means a rare element. In one portion of Germany the iodid can be profitably extracted and sold for ten shillings sterling per pound. Its extreme softness will render it more useful than zinc in many respects, while it will readily serve nearly all purposes for which that metal is used.

Whether or not, however, these metals ever prove of any real utility, they will remain as lasting monuments of the genius of their discoverers, and as memorials of the most gigantic series of experiments ever undertaken in the domain of chemistry.

MUTATIONS OF LANGUAGE.

IT is curious to observe the tendency of our scholars, speakers, and poets, to fall back upon the old Saxon forms from which our language was derived. The orthographical system contained in the last volume of the MONTHLY is an illustration of this. A somewhat careful comparison of the proposed letters and their sounds, with the ancient alphabetic system of the Saxons, proves that in nearly every case, whether intentionally or by accident, the writer has hit upon the same use of the letters which was in vogue among our ancestors a thousand years ago. A few observations will make this plain:

1. We have ample evidence that the original and usual sounds of the Saxon vowels, a, e, i, o, u, were similar to those now heard in fan, fen, fin, for, full. When the vowel was lengthened, or had an unusual sound, it was marked with an accent, as in the system alluded to. Thus we have in Saxon, lāh, hām, wég, rēn, wēste, scild, frīg, or frī, flōr, iōk, or geōk, vūm, pūl, hūs, for the words which we now write, law, home, way, rain, waste, shield, free, floor, yoke, room, pool, house. We do not mean to say that the old orthography is altogether uniform and consistent; it had a good many anomalies, which were marvellously increased during the Anglo-Saxon period.

2. The letter c, in the system referred to, is used for ch, its common sound in Saxon. Thus, in the old works, we have cild, cicen, circ, for child, chicken, church. Sc, too, was used for the sound of sh, as in flesc, disc, fisc, scip, scōre, now written flesh, dish, fish, ship, shore. It is an improvement on the digraph sc, to combine the two letters in one character, writing the s below the c, in the form of a cedilla.

3. The α proposed for th, in the new method, is very nearly the old Saxon character resembling a mug-handle, and which was used till after the time of Wiclif. This modified v had also a bar drawn across it to denote the sharper and more hissing sound, as in hath, doth, etc.

4. The omission of vowels not sounded is also Saxon. The oldest writers used the simple forms, midl, templ, bridl, sadl, nedl, wepn, hrefn, where we write middle, temple, bridle, saddle, needle, weapon, raven. The new system is, therefore, a very old system, and instead of being called *Romanized* orthography, it might with more propriety be designated *Saxonized* orthography.

The following version of the Saxon "Pater Noster," in which a few obsolete words have been exchanged for their modern equivalents, will show how nearly the

system proposed would bring back our language to its original form and appearance. A very curious feature of the Saxon poetry, is the alliterative rhyme, the initial letter of one or more emphatic syllables in the first line of each couplet being identical with an emphatic initial in the second line. The letters in the margin are the rhyming letters:

Our Fæder in hevn,	h
Bí halðd ai ném;	h
Let ai kīdom kum,	k
And æ néconz riklém;	k
Az æ hevnli hōst	h
ðai bihests óbé,	h
Let ai wil arú æ world	w
Bi fulfild olwé.	w
Giv us, Fæder, æ fud	f
Hwéron fed wí mé liv;	f
And forgiv us our gilt,	g
Az wí uæterz forgiv.	g
Líf us not in æ toils	t
Ov æ temter tu fōl;	t
But from ívl díliver,	l
And líd us wíðl.	l
For gain ís æ majesti,	m
Glóri, domén,	m
Nou and ever, arú éjes	e
Unendiḡ : Ámen.	e

This alliterative rhyming was much cultivated by the Saxon poets. Sometimes, instead of placing the alliteration in two connected lines, each line had a complete rhyme of its own, as in the old form of a deed of land:

Ne plot, ne plóp,
Ne turf, ne toft,
Ne furh, ne fótmael,
Ne land, ne læse,
Ne fersc, ne mersc,
Ne rúh, ne rúm,
Wudes ne felde,
Landes ne strandes,
Wealdes ne waetares, etc.

Although so distinguished a philologist as Prof. Marsh pronounces the alliterative rhyme uncouth and barbarous, there can be no doubt that it has its roots deep in the elements and structure of our language, for our finest poets are continually sliding back into the old custom. It gives the poetry of Mrs. Hemans much of its peculiar beauty, as in the song, commencing,

"There was music on the midnight,
From the royal fane it rolled."

So also in the following couplet, inimitable for its soft melody:

"She sung of love, while o'er her lyre
The rosy rays of evening fell."

Gray's "Elegy in a Country Churchyard" is perhaps the finest specimen of modern alliterative poetry to be found in the language. Almost every line presents us with two or three harmonious initials.

If we are to restore the Saxon spelling, would it not be well for our poets also to pay some attention to those fine old modes of harmony, which the cultivation of Greek and Latin literature for ten centuries has not yet been able wholly to eradicate?

THE WIND A MUSICIAN.

"THE wind is a musician by birth. We extend a silken thread in the crevices of a window, and the wind finds it and sings over it, and goes up and down the scale upon it, and poor Paginini must go somewhere else for honor; for lo! the wind is performing upon a single string. It tries almost anything on earth to see if there is music in it: it persuades a tone out of the great bell in the tower, when the sexton is at home and asleep; it makes

a mournful harp of the giant pines, and it does not disdain to try what sort of a whistle can be made out of the humblest chimney in the world. What a melody it sings when it gives a concert, with the full choir of the waves of the sea, and performs an anthem between the two worlds. Then, how fondly it haunts old houses; mourning under eaves, singing in the halls, chanting a measure of some sad old song around the fireless and deserted hearths."

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E PUR SI MUOVE.—OUR NEW VIGNETTE.

CENTURIES ago were uttered the memorable words we make our motto; then a rash declaration, now the watchword of science. Like the firmament he loved to contemplate, the career of the Florentine philosopher had its alternations of light and darkness. The story of Galileo is full of instruction and thrilling interest, whether we regard him as a youth, struggling under adverse circumstances to acquire knowledge; as the "high-priest of the stars" in middle life, when, flushed with triumph, he was the companion of princes and the recognized oracle of the scientific world; or as a sage, full of years and infirmities, before the awful tribunal of the Inquisition, where, clothed in sack-cloth, kneeling as a penitent, he stultified his intellect and ignored his conscience by recanting his clearest convictions. We need not trace his history, and in our limited space we can not even enumerate all his discoveries and inventions. The points presented display the qualities of his genius, and reveal the secret of his success.

Galileo's attacks upon the philosophy of Aristotle, show that he possessed a mind thoroughly inquisitive and singularly free from the influence of prejudice. The reverence with which this philosophy was then regarded, can now scarcely be understood. Firm in the authority of ages, honored with the faith of a long line of the illustrious and the good, it was held to be that absolute truth which could not be overthrown, either by the demonstrations of reason, or the evidence of the senses. How free, then, must Galileo have been from prejudice, how great his courage, to approach the shrine of the "divine Greek" and not bow blindly down, with the rest of the world, in worship be-

fore it, but to ask searching questions, and, failing to obtain satisfactory answers, to lift his hand against it! The disciples of science wondered at his hardihood and impiety as he dealt it a terrible blow in his experiment of letting fall unequal weights from the tower of Pisa, demonstrating to an assembled multitude the unsoundness of Aristotle's maxim, that the velocity of falling bodies is in the proportion of their weights. In the same spirit he dared to sift the Ptolemaic system, long regarded not only as truths of well-established science, but as decrees of infallible theology. And though accustomed, as he tells us, to regard the opposite theory of Copernicus as the sum of "solemn folly;" though he was surrounded by wise men, who made it the subject of unceasing merriment; though he could not persuade his friend—a distinguished professor in the University of Padua, and a representative of the feelings of the age—to even look through the "magic tube" for evidence in support of that theory, he did not long hesitate to examine it carefully, and, upon perceiving its correctness, to embrace it fully.

This habit of bold and free inquiry, developed another trait with which Galileo was largely gifted,—that fine insight which apprehends the presence of the profoundest truths lurking in every-day phenomena. From a hint presented in the swinging of a cathedral lamp upon which his eye happened to rest, he advanced to the discovery of the isochronism of the vibrations of the pendulum, thus virtually putting in motion the wheels of all the clocks that soon blessed the world. Reports concerning a novel instrument, causing distant objects to appear near, suggested ideas of its possible applications. He rested not until he had transformed an old organ-pipe and a pair of spectacle-glasses into his first telescope. This had a triple magnifying power. After repeated trials, one was constructed which magnified to the "marvellous number" of thirty times; and, while it was carried by other savans through Europe as a wonderful *toy*, he saw it with

"incredible delight" as the mighty wand with which to touch the heavens and make them yield their revelations of countless worlds. Certain changes in the position of what were supposed to be fixed stars, led him to the grand discovery of the four satellites of Jupiter. The changes of the spots on the sun made him infer its axial revolution. A mere hint, thrown out in conversation, caused him to catch enough of the truth of the Copernican system, and stimulated him to advance to the beautiful completeness of the whole.

Speculating boldly upon everything, anticipating gigantic results from the least things, this true philosopher was not hasty in admitting such results into his conviction, and in publishing them abroad as settled truths, while yet half attested. His patience and caution were not, indeed, equal to those qualities in the great Copernicus, who did not venture to make his favorite theory known until he had verified it by twenty-three years of laborious study; but it is sufficiently manifested in his months of unwearied observation and careful computation before announcing the discovery of Jupiter's satellites. He states in a letter to Kepler, that, for many years before teaching the "stability of the sun," he believed it in his heart, but concealed his conviction in deference to public opinion.

Yet, he who was ever cautious in seeking knowledge, was often very incautious in dealing with men. The sarcastic and vehement language with which he denounced his opponents was not only unbecoming to him in the hour of assured victory, but it exasperated them to such degree that they drove him from the University of Pisa, embittered his existence in many ways, and, in fact, did much toward bringing him to the degradation of the Inquisitional confession and prison. It was his insolence in charging ignorance and passion upon the church, and his ingratitude in abusing the extraordinary kindness of Pope Urban VIII., which, almost as much as his heresy in teaching the earth's motion and the sun's stability, drew down

upon him the anathemas of the Head of Christendom. But even here his enemies did not quite triumph. It is said that after he had solemnly sworn, upon his knees, with his hand upon the holy Gospels, to abjure, and detest, and curse his opinion of the earth's mobility, he rose up, stamped upon the ground, and exclaimed, in an undertone, "*E pur si Muove!*"—it does move, for all that. Yes! O fallen, but still noble Galileo, the world does move! The terrors of the Inquisition cannot wrench from thee this mighty truth; the total blindness, the almost total deafness, which followed thee in thy prison, brought this truth in its beauty and harmony to thy heart. And, though thou didst need but to accept fully the crown of martyrdom, to render thy glory perfect, it is yet enough that thy words, uttered in jeopardy, are echoed in exultation.

E PUR SI MUOVE! Significant words, surely, in an educational journal! They remind us of the ignorance, and bigotry, and superstition, that once prevailed over the minds of men and kept down the efforts of free thought. They cause us to rejoice that the world has moved so far in freeing the bodies and in disenthraling the minds of men. They suggest the great characteristics which transformed an obscure student into one of the world's heroes:—an active, keen insight, ready to mount from slightest things to themes of transcendent importance; love of bold and unprejudiced inquiry, and the most wary caution in testing conclusions. By cultivating these characteristics, even we may be inspired to believe that our labors will be successful and our reward abundant. Nor let us shrink from the warning which they give, that if we do aim to stand by the side of the "starry Galileo," we must also be willing to stand with him in "all his woes," and that only through mingled difficulties and victories we may be able to say of the world of Education, in the face of sloth and selfishness and every conceivable opposition, "*E pur si Muove.*"

PUBLIC INSTRUCTION IN ITALY.

AN interesting article in the French "*Journal des Debats*," gives us information concerning the state of public instruction in Italy. By this it appears that at the commencement of the school-year 1862-63, primary instruction, including public and private schools, both for girls and boys, was enjoyed by 939,231 pupils; that is to say, to one out of every twenty-three inhabitants, taking the population at 21,777,434; or one out of 3.24 children, estimating the number of them, of from six to twelve years of age, at 3,166,000. This proportion, if compared with that of Prussia, where more than three children out of four frequent the primary schools, is not at all calculated to flatter the national pride. Compared with France, however, the case is different. "We, ourselves, in France," it is confessed, "notwithstanding the excellent effects of the law of 1833, are far from setting an example to other nations, and we must not hesitate to avow that we have much to do in order to attain in matters of instruction that first rank which we ought not to abandon to any one if we wish to have the glory of marching at the head of modern civilization." Although Italy has only one pupil for primary instruction out of twenty-three inhabitants, France counts scarcely more than one out of ten; and ten of the French departments, or the ninth part of the whole country remain below the average of Italy.

In order to form a just idea of the state of primary instruction beyond the Alps, Italy must be compared with herself. At the commencement of the year 1861-62, the number of pupils amounted to only 801,202, instead of 939,234 in 1862-63. There was therefore an increase of 138,032 pupils, or about one-seventh, in one year. It was precisely the same augmentation that took place in France in six years,—from 1837 to 1843. During that interval, under the influence of the law of 1833, the proportion of the total number of that

category of pupils, to the amount of the general population, fell from 12.50 inhabitants for each pupil to 10.90, thus showing an increase of one-seventh in the number of scholars.

Considering the influences of the political agitations contemporaneous with this educational progress, it is evident that the Italian government deserves commendation alike for the pains taken to ascertain and make known the intellectual condition of the nation, and for the progress it has already effected in popular education.

SCHOOL HISTORY.

IN the colonial era, schools and school-masters were not lightly regarded. But various circumstances, even some of the characteristics of the colonists, were unfavorable to the preservation of many facts concerning their educational privileges and projects, which would now be matters of great historical interest. It is not surprising, therefore, that a comprehensive history of American schools, including the primitive establishments, has never been written. Scattered in various directions, sometimes in full view, sometimes concealed among less valuable matter, is material sufficient for an interesting as well as instructive volume. The "*Documentary History of New York*," published under the superintendence of Dr. O'Callaghan, would of course afford information respecting many schools and educational movements; yet there is much unused material in the Records filed in the office of the Secretary of State. These manuscripts, neatly attached to firm sheets, and well stitched and bound, constitute a series of handsome volumes, which may be conveniently handled, and, though carefully guarded, are accessible to all who have occasion to consult them.

We should have a school-history. Let our educational journals bring together such new facts as may, from time to time, be attainable, for the use of the future compiler and historian.

EDITORIAL CORRESPONDENCE.

PARIS, January 3, 1865.

The Imperial Library.—An Authorial Cabal.—The French and German Languages Compared.—The Classics Considered.—The Decision.

I MUST tell you of my visit to the Bibliothèque Impériale, and of its results. This is by far the most extensive of the libraries, the recent additions making the number of volumes and manuscripts nearly two millions. For many days I was a zealous devotee at this shrine, anxious to examine various works not elsewhere so readily accessible. Last week, on making my last visit, I abandoned my hope of ever thinking well of French literature. I felt ashamed to confess it, but was conscious that my predilections were unfounded. Coming home to my "observatory" on the fifth floor of the Hotel —, rue Richelieu, who should be awaiting me but my literary chaperon, who was to escort me to—I knew not what nor where, except that authors were to be present, and books to be discussed.

Well, the result showed that nothing could have been more successfully arranged for the removal of my French proclivities. The relative merits of the German and French languages had been previously decided upon for formal discussion. What, think you, followed? Four distinguished *Monsieurs* at once took sides with Herr Professor, and, finally, convinced the only two remaining speakers that the facts were conclusively against the French, in every important feature in a written language! The effect upon any doubt in my own mind, if any remained, may be imagined.

The conclusions deduced from the formal discussion and the subsequent informal conversation, may be summed up as follows: 1. The value of the dead languages is popularly overestimated. 2. The Greek, as a comparatively original language and the fountain of Roman literature, is to be preferred to the Latin. 3. A great portion of the time usually devoted to Latin, might, for practical considerations, be assigned to either German or French. 4. For even mental discipline, Latin is not superior to the thorough study of German. 5. The German language is superior to the French in strength and flexibility, in force and clearness of expression, and in readiness to yield to any possible requirement.

These *dieta* of an authorial cabal are not so true as to be truisms, nor so palpably erroneous as to be at once ignored. The

proper apportionment of time to the languages pursued in our colleges and preparatory schools, is a subject which demands a more thorough and more unbiased examination than it has received. C.

TOLEDO, OHIO, January, 12, 1865.

Educational Advantages.—The Lagrange Street Primary School.—The High School.—A Hint for Letter Writers.

I AM not an experienced writer; but I want to write. I am not a teacher, but I want to write about certain schools. A stranger here, and with no especial preferences for the neighborhood, the schools nevertheless are those of Toledo. What I would say of them most emphatically is, that I want some more competent person to say what I can not. For, here, in this rustic region as it may seem to most of your readers, here in this especial locality, not forgotten in historic annals, but, until recently, far more celebrated for its supposed richness in miasma, and the predilection of the inhabitants for ague and fever, here, unsuspected by most teachers of the metropolis, is a school system, wisely planned, successfully carried out, and not only an honor to the city, but one which would, perhaps, afford profitable hints for those interested in the New York and New England institutions. The schools are numerous, regular attendance is secured, and good scholarship is attained. Of the subordinate schools, the Lagrange-street school, considering the number of pupils, the studies pursued, the order and discipline observed, and the general character of the recitations, could not be visited by any teacher otherwise than with pleasure and profit. Then there is the High School, located in the central portion of the city, occupying a massive building,—a handsome Italian villa in appearance,—its tower overlooking not only the playground and lawn, but affording the most favorable view of the city and its environs. The pupils comprise chiefly those who have passed up by regular promotions in the subordinate schools, in which exact classification for this purpose is considered indispensable. In this central institution the various branches of study are comprised in an English, an English and Latin, and a Classical course.

My favorable impressions of these schools and the educational system of To-

ledo, are derived mainly from the palpable results. As to the details I am uninformed, but can not doubt that they embrace some interesting peculiarities. Hence this communication, and the expression of my desire that some one, familiar with the facts, should furnish your readers with a brief but comprehensive summary, which I, for one, would read with interest, and which, to some of my fellow-readers, might prove profitably suggestive.

J. W. H.

BLOOMFIELD, CONN., January 25, 1865.

Contracted Writing.—Shorthand.—Plurality of Systems.—Signs of Contraction.

AN editorial in the January number of the MONTHLY contains some suggestions of more than ordinary interest. The burden of writing grows more intolerable every day. But how shall it be removed? Our children may learn a style of shorthand, if that style be sufficiently simple and practicable; but what shall our overworked editors, clergymen, authors and others do, who have no time to form new habits? Contracted long-hand has been offered; but its use is unsatisfactory. One reason is this: Most men must write many things in full for the convenience of others. Now, while their contracted style might serve them, if it were possible to use it always, the necessity of writing some paper or letter every day in an uncontracted style, makes it impossible that any confirmed habit should be formed. The labor saved to the hand is added to the brain.

When a style of writing entirely different is employed, as, for instance, when short-hand is used for brief writing and long-hand for correspondence, no such confusion arises. The two are so entirely dissimilar, that after using one a few hours the writer takes up the other with as great facility as before.

The same difficulty occurs in the use of two styles of short-hand. All who have tried to use a more fully written style of short-hand at the same time that they were practicing a contracted reporting style, have found that the use of the one was not favorable to facility in the use of the other.

It is essential, then, if two styles of writing are employed at the same time, that they should be so distinct that each may be entirely independent of the other. This is an important law, and not generally understood.

In regard to the use of marks to represent *con*, *com*, *tion*, *ing*, etc., recommended by Sir Wm. Armstrong, the difficulty is the

same that we have stated; yet, a person who is able to use such a style and no other might reap important advantages from it, with but little labor in acquiring it.

When we found, after seven years' trial, that we could not teach phonography with any success, we spent a year in the study and use of such long-hand contractions. We have since abandoned them entirely; but the reader may find our experience valuable; at least it can be given far cheaper than it was acquired. This idea is a German one, and, we are informed, is employed extensively in Germany at the present time. In writing *unwidersprechlich*, for instance, a small stroke would be made for *un*, another for *wieder*, *sprech* would be written in the ordinary style, and a sign for *lich*; making three arbitrary disconnected signs, and a part—the most radical part—written in the ordinary characters.

This plan answers better for German than for English, as the Germans use compounds to a far greater extent than we do. Acting on this hint, however, and observing that disjoining these prefixes and affixes made the writing slower, and that the use of purely arbitrary signs requires some study and memory, we used the following plan: We wrote *c* for the prefix *con*, or *com*, joined to the remaining part of the word by a connecting stroke, long enough to show that the *c* was a contraction. A similar connecting stroke ending in *g*, represented *ing*, an old-fashioned *ss* was written for *sion*, *tion*, and all terminations sounding like *shon*, or *shun*. An *m*, written above the line, stood for *ment*; *n*, for *ment*; *ml*, for *mental*; *nl*, for *mental*. These contractions, with a few others, united with the omission of medial vowels (vowels neither initial nor final we call *medial*), made a style of writing by which much labor was saved, while it could be reduced to practice in an hour's time.

We neither *teach*, *sell*, *use*, nor *recommend* this plan. The reader may have it gratis, or find a better where he can.

We now think the true plan is to make *brief letters*, and write out the words uncontractedly. For B, write i; for A, c; for T, —; for m, j; for n, u, etc. L.

Mr. Editor—I am very much interested in the MONTHLY. I read each number with great interest, and am profited. But you must allow some strictures on the article of a late contributor, entitled, "How to Teach Reading." It seems like the production of one of those happy men who

never see the difficulties of a subject. These gentlemen always find it convenient to ignore the fact that in English there are forty odd sounds to be represented by twenty-six letters. Their "method" works beautifully in German, where each letter represents one sound; and it works beautifully in English, as long as only one sound of each letter is to be learned. A child may easily learn the words, "cat," "mat," and "rat," and the sounds of the letters in them. But what will these gentlemen do when the words "cate," "mate," and "rate," or the words "fall," "far," and "fane" are to be learned? If the

sound of the letter is to be used as the name, the same letter must have some half dozen names, and confusion worse confounded is the result. Of all the books on these new methods, and all the lecturers, and all the magazine articles, no one ever seems to get far enough to meet this difficulty. Will some of the advocates of these new things give us the required information? Or shall we set them down among the many innovations which are not improvements? The alternative is before them. Let them now speak, or forever hold their peace.

AN OLD SCHOOLMASTER.

SCIENCE AND THE ARTS.

—Last month the American Academy of Sciences held its annual session in one of the rooms of the Capitol at Washington. Papers were presented from Professors Agassiz, Wolcott, Gibbs, J. D. Whitney, Baird, Hilgard, and Peirce, and they will appear in the forthcoming volume of transactions to be published by Congress. The vacancies occasioned by the deaths of Professors Silliman and Hubbard, and Gen. Totten, were filled by the election of Dr. Kirtland, the zoologist, Professor O. M. Rood, of Columbia College, and Major-General Meigs, the engineer. The foreign associates elected are Alexander Braun, the Berlin botanist; G. B. Airy, Astronomer-royal, of England; R. Owen, the English zoologist; F. Wöhler, the celebrated chemist; Sir R. I. Murchison, the geologist, President of the Royal Society; and Victor Reynault, the chemist.

—A French artist, M. Kellerhoven, has invented what he terms "a new process for reproducing the works of the great masters." Messrs. Didot & Co. have published six specimens of his skill: examples of Lothener, Memlinc, Quentin Matsys, Filippino Lippi, and Fra Angelico, wherein the gold and colors of the original works are rendered with great beauty and marvellous fidelity. Each picture is accompanied by four pages of description in letterpress from the pen of M. Alfred Michaels.

—Gibson, the sculptor, says of the newly found Hercules: "It is the most beautiful work of art in Rome. It made me melancholy the whole of the day after I had seen it, to think that, after all the labors of a life, I had made such slight approaches to the perfection of the master-hand which had executed that work."

—At the late meeting of the British Association, Dr. Davy read a paper on the Temperature of the Sexes. Aristotle's theory that a man possessed more warmth than a woman has been disputed; and it had been held by some, as the result of modern research, that the temperature of women was slightly superior to that of men. Dr. Day, however, considered the early opinion as more correct. On the average, the temperature of males and females was as 10.58 to 10.13. The result of some elaborate experiments recently instituted was, that the temperature, in the case of men, varied between 99° and 99½°, and that of women between 97¼° and 98°. An examination of other animals gave a still higher temperature for the male than for the female.

—In a paper read before the Anthropological Society (Eng.), by Mr. A. R. Wallace, the following statements occur, which help to account for the variation and transmutation of species: (1). Peculiarities of

every kind are more or less hereditary. (2). The offspring of every animal vary more or less in all parts of their organization. (3). The universe in which these animals live is not absolutely invariable. (4). The animals in any country (those at least which are not dying out) must at each successive period be brought into harmony with the surrounding conditions. These are all the elements required for change of form and structure in animals, keeping exact pace with changes of whatever nature in the surrounding universe. Such changes must be very slow; for the changes in the universe must be very slow; but just as these slow changes become important, when we look at results, after long periods of action—as we do when we perceive the alteration of the earth's surface during geological epochs—so the parallel changes in animal form become more and more striking, according as the time during which they have been going on is great, as we see when we compare our living animals with those which we disentomb from each successively older geological formation.

—A writer in the *Technologist* gives the following for the removal of acid stains from colored silks:—Brush the part with tincture of iodine; after a few seconds, saturate with hydrosulphite of soda, and dry gradually. The color will be perfectly restored. This process is entirely new. The reagents mentioned may be procured at any good drug store.

—The question, Who discovered oxygen? is just now exciting some attention in Paris. We have been accustomed to reply to it, oxygen was discovered simultaneously, but independently, by Scheele, of Sweden, and Dr. Priestly, of England. Frenchmen, however, persist in attributing its discovery to Lavoisier; but now it is set down to one Eck Subzbach, who, as early as November in the year 1489, discovered that, when red oxyd of mercury was heated, it disengaged a *spirit*. After him came Pierre Bayen, a physician in the French army, who, in 1772, heated an oxyd without charcoal, and found that it gave off an elastic fluid, which he collected, measured,

and weighed, and found to be heavier than atmospheric air. These facts show us that all great discoveries have undergone a gradual development, and that the germs have originated in the minds of men to whom the world gives very little credit or merit, though they well deserve it.

—The fact that there are insects of different species which bore into lead, has been heretofore known, but a correspondent of the *London Times* recalls attention to the subject in a *résumé* of proceedings as to it in the *Comptes Rendus*. The insect which bored French bullets in the Crimea was not known in Russia, but is said to be common in the Jura, in France, and in Germany and Sweden, as well as in England. It is a wood insect, and usually attacks silver firs and pines. The larvæ of the insect attacks the lead, not the perfect insects, which die in the excavated passages even immediately after the metamorphosis, as very often occurs with insects in general. Roof, and other sheet lead, has been known to be bored by a species of *Bostriche* (*B. capucina*). The *Sirex gigas*, also, often cuts its way into lead by means of its mandibles, as also the *Callidium sanguinum*; and lead pipes have been perforated by an insect named *Apate humeralis*. The mandibles of some of these insects consist of a saw, toothed and cut like a file. Perforations in lead, ascribed to corrosion, may sometimes be the product of the mischievous industry of such insects.

—At the October meeting of the Literary and Philosophical Society of Manchester (Eng.), the president said, with regard to the use of microscopic powers, such as the $\frac{1}{16}$, or $\frac{1}{32}$, that we seem to have reached the limits of the available powers of microscopic object-glasses, as it appears impossible to separate or define lines more numerous than ninety thousand in an inch on account of decomposition of the light, or some other cause. It therefore seems beyond our power ever to discover more of the ultimate composition of matter by aid of the microscope, even were we not prevented by the material composition of our lenses and organs of vision. It is,

moreover, a curious fact, that the smaller creatures are composed of fewer elements than the larger ones, and that the number of elementary bodies composing them decrease in proportion as the organisms themselves decrease in size. It becomes, therefore, a matter for speculation, whether the reason for this may not be that the ultimate atoms of some elementary bodies are larger than others, and that these, from their size, cannot be used in the composition of the more minute forms of organic bodies, and that smaller organisms than those about $\frac{1}{35000}$ inch do not exist, because the ultimate atoms of all solid bodies are too large to be economically used in their formation.

—Alchemy appears to be not yet wholly dead. One would scarcely suppose that the present high price of bismuth is owing to a revival of the old transmutation theory. A company was lately formed in London, under the direction of a foreigner, for the purpose of making gold. Bismuth was to have entered largely into the process, and all that could be obtained was purchased by the company, regardless of price. Of course no gold resulted, and the deluded stockholders are now turning

their bismuth into gold in a legitimate way, by cautiously selling it at the present high price.

—Mr. Tegetmeier, of the Entomological Society, maintains that bees have no instinct in shaping their cells, as has usually been supposed; but the form is the consequence of the law or property of space, that of seven circles of equal radii, six will just surround the seventh. The cell of the bee is invariably hemispherical at its commencement, and the section of a cell not in contact with another is always circular.

—Dr. Richardson, an English chemist, says that iodine placed in a small box with a perforated lid, destroys organic poison in rooms. During the continuance of an epidemic small-pox in London, he saw the method used with benefit.

—The earth's rotation on its axis is to the revolution of the moon as the sun's rotation is to the revolution of Mars.

—Tobacco, if applied to the abdomen in case of cramp, is very beneficial, but if too long continued, the cramp proves fatal.

MISCELLANY.

—The epithet "Blue Stocking" originated in a club in London, formed of males and females, assembled for literary conversation. Stillingfleet, one of its most prominent members, always wore blue stockings, and was one of the best talkers. So, when absent, his loss was extensively felt, and it became a personal phrase among the friends, "we can do nothing without the blue stockings." And from this coterie it soon passed into literature, becoming descriptive, specifically, of a literary female.

—The Coliseum was built by Vespasian. Its length is 620 feet by 513 in width

outside the wall. The area is 287 by 180, and the superficial surface covered by the building nearly six acres. It was capable of containing 17,000 spectators. In the erection of this stupendous pile the emperor employed 12,000 Jewish captives.

—Professor Bunsen of Heidelberg has received the Prussian order "Pour la Mérite," and Professor Liebig a gold medal, struck expressly as an acknowledgment of his services in the cause of agriculture.

—An aerolite lately fell at Orgueil, an analysis of which proved the presence of soluble hyposulphites.

—The terms which we derive from the scientific examination of plants, appear strange when they are used in common life, and it sounds strangely enough to hear that the grateful, juicy part of a strawberry is but a portion of the *flower-stalk*, while the actual fruit consists in the little inedible granules; on the other hand, that in a raspberry we eat a quantity of little genuine fruits, the *carpels* which have become fleshy and succulent, while the same portion of the stem which delighted our palate in the nearly allied strawberry, is here represented by the little white, spongy cone; that in the apple we eat a part of the *flower-stalk*; in the cherry, part of a *leaf*; and that in the nut and almond, we devour a whole diminutive plant, root, stem, leaves, and buds.

—Many a hint is to be obtained from an intelligent practical laboring man, which may lead the philosopher into a train of ideas that may, perhaps, result in discoveries or inventions of great importance. When bricklayers leave off work for a day or two, as from Saturday to Monday, they push their trowels in and out of the soft mortar, so that the bright steel may be smeared all over with a film of it, and find this plan an effectual remedy against rust. In Wren's "Parentalia," there is a passage bearing on this subject: "In taking out iron clamps and ties from stonework, at least four hundred years old, which were so imbedded in mortar that all air was perfectly excluded, the iron appeared as fresh as when first from the forge." Oxygen, which is the main cause of rust, is abundant in the composition of both water and the atmosphere; and that quicklime has an astonishing affinity for it, is evinced in the homely practice of preserving polished steel or iron goods, such as fire-irons, fenders, and the fronts of grates, when not in use, by shaking a little powdered lime on them out of a muslin bag, which is found sufficient to prevent their rusting. Another instance, very different, and far more delicate, bearing upon the same subject, is found in the fact that manufacturers of needles, watch-springs, and fine cutlery, generally introduce a small package of quicklime into the box or parcel containing

such goods, as security from rust, before sending it to a distant consumer, or stowing it away for a future occasion and sale. These cases are extremely curious, because, as a general rule, bright steel or iron has a most powerful affinity for oxygen; consequently, it is very readily acted upon by damp, and is rusted in a short time, either by decomposing the water and obtaining oxygen from that source, or direct from the atmosphere. It is not absolutely essential that the quicklime should be in actual contact with the metal, but if somewhere near, as in the case of the parcel of lime packed up with the needles or watch-springs, the bright metal will remain a long time without the least alteration in its appearance: the lime (which is already an oxyd of calcium) either receiving an additional dose of oxygen, or being converted into a carbonate of lime.

—A mammoth pound-cake was on New Year's day presented by Mr. Samuel H. Crook to the children of the Five Points Mission. It was 10 feet in length, 22 inches wide, 16 inches thick. Among the ingredients were 175 pounds of flour, 125 pounds of sugar, 80 pounds of butter, and 1,000 eggs. The ornamental confectionery was itself a curiosity, comprising festoons, mottoes, and various emblems; the Lord's Prayer, the American Eagle and the national flag, being executed in sugar-work with delicacy and skill. The entire weight of this gastronomic monstrosity was about six hundred pounds.

—The most faithful likeness of Immanuel Kant ever produced is now being multiplied by photography. It is by no less a hand than that of Vernet, the elder, who painted it in Königsberg, while on his way to St. Petersburg, and it is now in the possession of Dr. Jachmann, of the former place.

—We regret to have to announce the death of the travellers Madame Tinné and Mr. Schubert, who have fallen as the latest victims to the murderous African climate. It will be remembered that they were endeavoring to find traces of the unfortunate African explorer Dr. Vogel.

—We learn from the *Hobart Town Mercury* that the experiment of acclimatizing English salmon and trout in Tasmania has been completely successful. The ova sent from England arrived in April, and on the 4th of May the first trout made its appearance, followed on the succeeding day by the first salmon that had ever been seen

in Australia or south of the Equator. By the 8th of June, some thousands of healthy trout and salmon had been hatched, and were set free into the breeding ponds. So that the great undertaking of introducing these fine fresh fish into the Australian Colonies, may now be considered to have been successfully accomplished.

EDUCATIONAL INTELLIGENCE.

—Professor William Wells, long of the Faculty of Genesee College, has been elected Professor of Modern Languages and Belles Lettres in Union College.

—During the past year the colleges and seminaries of this country have received liberal contributions. Yale College has received \$450,000; Amherst, \$110,000; Princeton (N. J.), \$130,000; The Syrian College, \$103,000; Trinity (Hartford), \$100,000; Rutgers (N. J.), \$100,000; Chicago Theological Seminary, \$80,000; Bowdoin (Me.), \$72,000; New York University, \$60,000; Wesleyan University (St. Louis), \$50,000; Andover Theological Seminary, \$50,000; Dartmouth, \$47,000; Harvard, \$44,000; Williams, \$25,000; Middlebury, \$10,000. These are some of the figures, and for these war times they tell a good story.

—In Bavaria public attention has been called to the prevalence of short sight, and the increasing use of spectacles by the young. Accordingly, the authorities have instituted a crusade against certain removable causes of the evil, such as the imperfect lighting by day of school-buildings, owing to original faulty construction; the imperfect lighting of them by night through a cruel economy; the injudicious placing of the lights, or of the benches and black board in relation to them, whereby the sight of the pupils is strained; and the use of glasses not needed, or unsuitable.

—Though attendance at school is obligatory throughout the Austrian empire,

the actual attendance varies greatly; so true is it that various circumstances, as the sparseness of the population, the badness of the roads, and the brutishness of the people, or their political disaffection, render the strictest obligation nugatory. The per centage of children in attendance is, in Austria proper, the Tyrol, Bohemia, and Moravia, 98; Styria, 84; Carinthia, 72; Hungary, 55; Venetia, 34; Croatia, 20.

—A French scientific journal attacks the measure which obliges the principals of "Primary Normal" schools to make, from time to time, certain meteorological investigations. The director of the Observatory replies to this in the *Bulletin International*. "The administration knows the zeal of the Normal schools, the talent and devotion of their principals and teachers. The four Normal schools of the parish of Nancy have made meteorological investigations for the past seven years, induced by M. Faye. These observations, well and regularly made, are now being calculated and will soon be published. Other normal schools have also voluntarily imposed the same duty upon themselves. It is justly intended to spread in the country districts a practical knowledge of those important phenomena, and to do this, requires first a thorough instruction of the schoolmasters of our normal schools in this important science. The administration is certain that by inspiring those young men with the spirit of observation and research, good results will be obtained, and this has also been the opinion of all the General Councils."

—Phillips Academy, at Andover, was totally destroyed by fire on Monday morning, December 21st; probably the work of an incendiary. The building was of stone, and was erected about fifty years ago. It was valued at \$20,000, and was partially insured. The school has over two hundred scholars, and will go on without interruption.

—John D. Willard, recently deceased, has bequeathed \$10,000 to Dartmouth College; and a graduate of the college in Western New York, has recently contributed \$1,000 to found a scholarship.

—The corner-stone of the Yale school of fine arts, which A. R. Street, of New Haven, has generously offered to erect at his sole expense upon the college grounds, was recently laid with the usual interesting ceremonies. Prof. Edward E. Salisbury, Rev. Dr. Harwood, Donald G. Mitchell, Gov. Hoppin of Rhode Island, and others, made addresses.

—Nearly ten thousand dollars have been recently subscribed in this country for a native Protestant female seminary in Beirut, Syria. Until quite recently no Syrian girl could read; and when schools were first opened for girls, it was very difficult to induce parents to send their daughters, though tuition and board were free. One parent said to one of our missionaries, that he would as soon think of educating a cat as a girl. But, since the fearful massacre in 1860, and the liberal benefactions sent from this country, there has been a great change, and there are now nearly three thousand children in Protestant schools in Syria, of whom one-third are girls. In Beirut alone there are now five hundred girls in these schools.

—The advantages of Free Schools begin to prevail in many sections of Missouri. Our reports from St. Joseph are most favorable. The schools are controlled by a Board of Education, of which Capt. Louis Hax is President, E. B. Neely, Secretary, and John Calhoun, Treasurer. The schools are under the immediate supervision of E. B. Neely, Superintendent. The school

buildings are commodious and well-constructed. The schools are of three grades: Primary, Intermediate, and High Schools. There are seven schools in all—three primary, three intermediate or grammar schools, and one high school. In the primary schools are taught only the strictly primary branches; in the grammar schools, the studies of an ordinary English education are pursued; and in the high school, in addition to the usual English branches, the scholars are instructed in the natural sciences, mathematics, and the ancient languages. The able Superintendent, Mr. E. B. Neely, visits each school weekly, advises with the teachers as to the best modes of conducting the schools, notices the recitations of the classes, and is responsible for the good management of all the schools. The principals of the primary schools are Miss Alice Bruner, Miss India Cowden, and Miss Jennie Parsons. The principals of the grammar schools are Mr. H. C. McLaughlin, Mr. N. Somerville, and Mr. B. R. Vineyard. The Superintendent is principal of the high school, assisted by Mr. Nelson Wilbur, a graduate of Dartmouth College. There are now in the schools 465 scholars, representing all classes and all professions.

—Maryland has become thoroughly awake to the importance of Free Schools. The new State Constitution authorizes the establishment of Free Schools in every part of the State. A most fortunate appointment of State Superintendent has been made in the person of Louis Van Bokkelen. His ability, experience in educational matters, and indomitable energy, will work out and organize a system which will rival the systems of many of the Northern States, and will become a fit example for other Southern States as they take their magnificent strides for disenthraling the minds of their people. In future numbers we shall notice the great progress which is now inevitable in this State.

—The appointment of Hebrew Professor at the Sorbonne, in succession to M. Renan, has been definitely made in the person of M. Muntz, of the *Institut*. The new professor is a Jew, and he is, further, utterly blind.

—The following rule as to marking attendance has been adopted by the School committee of Boston:—"Whenever a teacher has satisfactory evidence that a pupil has left school without the intention of returning, such pupil's name will forthwith be stricken from the list; but any absences recorded against the name of the pupil before the teacher receives this notice shall be allowed to remain, and be regarded the same as any other absences. When a pupil is absent from school more than five consecutive school days, the name of such pupil shall be stricken from the list at the end of five days, and the absences shall in all cases be recorded while the name remains on the list. The name of the pupil who is suspended from school by any rules of the School Board shall be stricken from the list, and any pupil shall be considered as absent whose attendance at school shall not continue for at least one half of the regular school session of the half day. In noting the absences of pupils

the short vacations shall be disregarded, and pupils who are not present on the first half day of a term, after either of these vacations, shall be marked as absent."

—The salaries paid male teachers at Cincinnati during the current year are: intermediate principals, \$1,600; district principals, \$1,500; intermediate assistants, \$1,100; district assistants, \$1,000. Two female teachers have \$1,000 each; three, \$700; seventeen, \$600; five, \$450; forty, \$420; one, \$400; one hundred and eight, \$360; ninety-two, \$300; thirty-two, \$240.

—The first free school for negroes in Washington was opened about one year ago. There are now in that city about twenty day schools and seventeen evening schools for colored persons.

—The "Lincoln School," a free school for colored females, was opened in Baltimore on the twelfth of December.

CURRENT PUBLICATIONS.

If brevity were the soul of poetry as well as of wit, the lyrics of Montclair¹ should, without hesitation, be placed among the bardic oracles. In his prologue it is made apparent that the brevity of these poems is not unintended, and that condensation has been practiced with the view of making the thoughts suggestive,—

That o'er an outline page the reader's mind,
In self-thought volumes, lingering may dwell.

Praiseworthy purposes, these, especially at this day, when it often seems that the poet's aim is not "vim," but "volume." Our author has not been altogether unsuccessful in his purpose. Many brief passages might be selected, each of which would do more to put in motion the wheels of thought than is done by many longer poems of some writers. A homily is embodied in the poem "External Piety," occupying a single page, in which these lines occur:

Though howling wolves would not destroy each other,
Sect curses sect, brother, alas, dooms brother
Rank orthodoxy is the set-up price
That wins the golden keys of paradise;
Whilst law is studied as the week-day code,
To guide the pions on their worldly road.

Suggestive thoughts are happily expressed in even this epigram, entitled,

DEAD AUTHORS.

Unnumbered volumes look from yonder shelves
With beggar's mien, and crave our charity,
Stale, and unpetted by the scholar's hand,
Voiceless, in mock-solemnity they stand,
Like tombstone records; and each title-page
Tells of rash men, drowned in oblivion's sea
By the avenging muse of Poetry.

These short poems are not, however, all thus suggestive. Some are feeble, poorly conceived, and deficient in effect. The most noticeable characteristics are ease and purity. We see no perspiratory efforts to mount the Pegasus, no confusing complication of imagery. We read on, from Alpha to Omega, without being once startled or annoyed. The greatest faults are those of minor character. They are most perceptible in the details of execution. For example, observe the rhymes in the little poem we have quoted,—“Dead Authors.” It has only one legitimate rhyme,—“hand” and “stand” will satisfy even the ear of a child. Granted, for argument's sake, as the logicians say (for we would not otherwise concede it), granted, that the words “charity,” “sea,” and “poetry,” are a triplet of rhyme; there yet remain “shelves,” and a “title-page,” doomed irre-

(1) REAL AND IDEAL. By JOHN W. MONTCLAIR. Philadelphia: Frederick Leypoldt. 12mo, pp. 119.

mediably to single-blessedness, unfavored by "concord of sweet sounds." A similar, but more striking instance, occurs in the "Ode to Poesy." We italicise the rhyming words to show more readily that they are found only in the last seven lines of the entire passage:

In the lone forest
To thee the warbling
Of bird is worship,
And wild-wood rustlings
Are spoken language.
Thou pictrest beauty
In desolation.
The crowded highway,
Where wealth, usurping,
Loads man with labor,
To thee is only
A tomb of silence.
Thy words are blessings,
And quick relief;
For the heart-stricken,
Thou softenest grief;
To youthful pleasures
Givest virtues tone—
Yea, music's measures
Are all thine own!

Now we do not wish to be deemed hypercritical, but we unequivocally affirm that the greater part of this passage has no merit as poetry, has not the form of poetry, is not poetry, and would be read with more ease, be more readily understood, and even appear more poetical, if given thus, in plain prose:

In the lone forest to thee the warbling of bird is worship, and wild-wood rustlings are spoken language. Thou pictrest beauty in desolation. The crowded highway, where wealth, usurping, loads man with labor, to thee is only a tomb of silence. Thy words are blessings, and quick relief.

Yet the author is evidently a scholar; some of his translations from the German are admirable, and even in the selecting of German subjects his cultivated taste is manifested. Thus, Heine has here no coarse jests; we would not suspect him to be the buffo-poet who elsewhere would fain hob-nob with his saints, and amuse his angels by sliding them down a rainbow. But, however judiciously our author may select from German writings, and however well he may translate, he has enough of the poetical element in his organization to warrant more strictly original work, and we shall be glad to see his name on a new title-page.

As a literary kinswoman of the "Schönberg-Cotta Family," we welcome Mrs. Kitty Trevilyan. Her *Diary** shall have a conspicuous place on our table. We leave it there at present, purposing to examine it in connection with its predecessors, and to let them show how much can be done in the way of novel writing or other legitimate exercise of fiction, to teach and educate alike the mind and heart.

Some of the writings of Mrs. Oliphant are familiar to many of our readers. The sequel to her "Chronicles of Carlingford," which was first given to the public through the pages of "Blackwood," has just been issued by the Harpers, and will be extensively read. It is a story of English domestic life, written, not in the sensational style, but with a stout, strong pen, which should have received more frequent mending. For, although the work is dignified in tone, and is a pretty fair specimen of modern fiction, yet at times the story is flat, and the style heavy. The curate himself passes through a prolonged celibacy with better grace than is usual with his fellows. Whether he ultimately married, we must not reveal, as we wish not to spoil the reader's interest in that all-important point of a story, especially one of the Oliphant style. Typographical errors and inaccuracies are generally overlooked by the critic, or regarded as unworthy his attention. Whatever the truth may be as to the latter point, we usually refrain from calling attention to such matters unless they are particularly glaring. In the present instance, such peculiarities are more frequent than in most of the works from the press of the Harpers. Throughout about half the volume, the first half and the last half of the running-title are transposed, each retaining its proper points, so as to read, "The Perpetual Curate. Chronicles of Carlingford," which circumstance, added to such errors as "daressy," for "daresay," must give the work a very inelegant appearance. Such misprints are of little consequence in similar works, but, for the sake of our ordinary school-books, and our strictly scientific works and histories, we protest against undue haste in book-making.

Improvements corresponding to those of modern school-books, characterize many of the works written for the diversion of the young or for their moral instruction. This branch of book-making has become important, not only because of its objects, but also because of the energy with which it is prosecuted. Several of the well-known publishing houses find that the most remunerative portion of their business consists in this catering to juvenile fancy. Some of the works to which we thus generally refer, are models in many respects; some are defective in style and deficient in suggestive thoughts. But, notwithstanding the improvements in juvenile books as a class, by far the greater number deserve neither censure nor praise. Of these, is Mark Barnett,⁴ whose hero—made hero of the book only by its name—is not allowed to have the prominent place that his good character should have secured. Mark

(2) *DIARY OF MRS. KITTY TREVILYAN*: A story of the times of Whitefield and the Wesleys. By the author of *Chronicles of the Schönberg-Cotta Family*, *The Early Dawn*, etc. With a Preface, by the Author, for the American edition. New York: M. W. Dodd. 12mo, pp. 426.

(3) *THE PERPETUAL CURATE*. A Novel. By the author of "Chronicles of Carlingford," etc. New York: Harper & Brothers. 8vo, pp. 239.

(4) *MARK BARNETT, THE CRIPPLE*; or, *WEST MORELAND*. By the author of "Weldon Woods." Boston: Henry Hoyt. 12mo, pp. 225.

is a good boy. The author has slighted him. Too many strangers are brought together. The thread of the story is somewhat snarled, and, wisely or unwisely we know not, the author cuts it, promising that "of the persons in whom the reader may have become interested, more will be learned of their growth in grace and missionary labors around their homes, in the volume bearing the title of 'Francis Morton; the Light of West Morelands.'"

In these days, when children pass so abruptly from infancy to full-fledged manhood, we find books enough for men, and books for small children, but for the intermediate class no suitable provision is made. Mr. Baker's unpretentious series of elementary scientific text-books are truly a great advancement, and go far to fill the void. They are full of useful general information, and characterized by such genial common-sense as to render them acceptable to children of very large growth. The remarks upon the present frivolous modes of dress are judicious. The series treats of geology, physiology, chemistry, and the other natural sciences, so thoroughly, that we are astonished at the amount of knowledge crowded into so small space.

Mr. Baker has also published a series of reading books upon Bible History, and a Bible Class Book.⁶ The former are quite elementary; the latter is of a more advanced character, and will doubtless prove valuable in Sunday-schools.

Works on Geology increase in number almost as rapidly as primary arithmetics. As the science, however, is yet in its infancy, a necessity for new works may be conceded which cannot be claimed for arithmetics. We must, however, bring our testimony against many of the attempts which have been made to divest geology of its technicality so as to render it attractive to the masses.

Such attempts are either gross failures, which, from their pretensions, provoke disappointment in the reader, and consequent dislike of the science, or they belittle the science by avoiding all technical terms. The little volumes of Mr. Page⁷ and Margaret Plues,⁸ are elementary treatises, intensely interesting to one well informed in the science. Everything is told in a truly charming manner; but, as popular treatises, they are failures, as must be the case with all similar books, treating of sciences which cannot be considered in the abstract.

Professor Holloway, in his "Mental Geometry,"⁹ has struck out into an entirely new field. He endeavors to treat geometry in the only true way, as a purely abstract science. He dispenses entirely with diagrams, thus compelling the student to work more thoroughly than under the established mode of teaching. The difficulties in the way of learning geometry in this manner are, however, so great, as to render quite doubtful its general introduction into our schools.

The fact that a fifth edition of Dr. Ridge's work, "Ourselves, our Food, and our Physic," has just been issued, speaks volumes for the popularity of the treatise that advances such new, yet sound common-sense principles of medicine, and which have, at least, made its author famous and one of the most courted physicians of the day. The second volume of the "Travels in Mexico," by Baron Von Müller, has just been published in Leipsic. The author has written with judgment and as an observer. A very instructive book has been published in Leipsic. The title is "Culturblätter aus Hellas und Rome."—Leaves of Instruction from Hellas and Rome. The author is Dr. Gölle. The book offers a true and striking picture of the literature, arts, sciences, public manners, and other conditions of these two nations, and is written in a popular style.

(6) I. ANIMALS; THEIR NATURE AND USES. II. MAN; HIS FRAME AND WANTS. III. SCIENTIFIC CLASS BOOK. By CHAS. BAKER. London: Wertheim, Macintosh & Hunt.

(6) READING BOOK OF BIBLE HISTORY. In three gradations. THE BIBLE CLASS BOOK, for schools, teachers, and families, with explanatory notes on places, customs, etc. By CHAS. BAKER. London: Wertheim, Macintosh & Hunt.

(7) THE EARTH'S CRUST: a handy outline of Geology. By DAVID PAGE, F.R.S.E., etc. Edinburgh: William F. Nimmo.

(8) GEOLOGY FOR THE MILLION. By MARGARET PLUES. London: Routledge, Warne & Routledge.

(9) MENTAL GEOMETRY: or, Generalizations of Geometrical Demonstrations in Planes, Solids, and Spheres. By Prof. H. H. HOLLOWAY. Philadelphia: Lippincott & Co.

THE SPIRIT OF OUR EXCHANGES.

THE *California Teacher*, edited by John Swett, George Tait, and Samuel I. C. Swezey, is one of our very best Exchanges. In a late number it thus discourses to "Eastern Teachers":—"For the benefit of teachers in the older States, who are casting longing eyes hitherward, we note the following items of information. In San

Francisco about one hundred and twenty teachers are employed in the Public Schools—six grammar masters with a salary of \$2,100 per year in gold, one male sub-master, \$1,500 per year, three male teachers in the High Schools, salary \$2,400 a year, and say, one hundred female assistant teachers with salaries from \$700 to

\$1,000 per annum. The semi-annual examinations for applicants seeking positions in these schools are held by the City Board on the tenth of May and the fifteenth of December, and teachers from the East seeking positions in the city schools should arrive here at those seasons, as no special examinations are held by the City Board. The cost of board in San Francisco is from \$30 to \$40 per month. At these semi-annual examinations there is usually a demand for half a dozen good female teachers. The best time for securing ungraded schools in the State at large, is during the months of May, June and July. During these months the State Superintendent receives, say, from thirty to forty applications for teachers. In these country schools, the salary of male teachers is about \$50 per month and board, or \$75 per month without board, and for female teachers from \$40 to \$45 per month and board. The demand for female teachers is greater than for male, inasmuch as the 97,000 bachelors in the State are always on the lookout for schoolma'ns, especially if they are young and pretty.

The New York Teacher, for January, contains part second of an interesting article entitled "Notes on Grammar;" "Kindergartens;" "The Study of Plants and Flowers;" "Dirty Children;" "Mental Arithmetic;" "About Explanations;" "Scottish Popular Education." The Resident Editor's Department is full, and will doubtless prove interesting to the teachers of the great State of New York.

The Herald of Health and Journal of Physical Culture, for January, contains many interesting articles, among which are "A Discussion on the Nature of Diseases;" "The Hog and the Hog Eater;" "Restless Nights;" "Physical Culture," and "The Mystery of Error."

The Maryland School Journal, still in its first year, is creditable to its publishers and interesting to its readers. Its leading article for January is the "Story of McDonald and his Pupil," and the story has a practical moral. This Journal, starting with the new career of Maryland, will prove, we trust, a powerful agency in aiding that State to fulfil its "manifest destiny."

The Indiana School Journal is the organ of the State Teachers' Association of Indiana. George W. Hoss, Editor, Indianapolis. In the January number the able editor discusses at considerable length what the school system in that State needs in order to desired efficiency. He proposes the following:

1. An appropriation of a small annual sum, say \$30 to \$50 per county, for the support of Teachers' Institutes.

2. A State Normal School, wherein tuition shall, in a good degree, be free for all intending to teach in Indiana.

3. Provisions should be made for keeping the public schools open throughout the State at least — months in each year.

4. Provisions for the issuing of State Teachers' Certificates to teachers of eminent scholarship and professional ability; said certificates to be valid throughout the State, and during the lifetime of the holder.

5. An amendment to the Constitution permitting local taxation.

6. Sundry amendments to the School Law.

In a former issue the *Journal* gave some arguments in behalf of the first two positions. In this issue, attention is given to other points in the proposed amendments of the school system.

Harper's Magazine always has something interesting and profitable for every class and condition of men. "Tom's Education," a pleasant story in the January number, is especially interesting to students and teachers.

Clark's School Visitor has a happy way of saying pleasant things to boys and girls who go to school. It can hardly fail to improve the morals of its young readers.

Our Young Folks is a new illustrated magazine for boys and girls. Its first number (January) is filled with articles by "the best writers." Dr. Lewis' article on the "Physical Health of the Young People of America" is good. He has, we think, made the same remarks many times before, but they are none the worse for that.

The Student and School Mate begins its volume for 1865 with a very interesting story of "Out in the World." This is followed by "A Visit to Dresden," with an illustration. "He Never Smiled Again" is a good historical tale by May Mannering. The *School Mate* is filled with instructive reading for the young, on scientific subjects, history, biography, and topics of general interest.

The great characteristic feature of this well-known Monthly is that each number contains an original dialogue, and "A Speech Marked for Declamation." These make it invaluable to the school room. The dialogue for January is "Luck and Pluck," which can be repeated with profit in every school in the land. The declamation is "Our Foreign Relations," by Maj. Gen. N. P. Banks. Appropriate positions and gestures are carefully marked.